REMARKS

In response to the Office Action mailed on October 5, 2006, Applicants respectfully request reconsideration. To further the prosecution of this Application, Applicants submit the following amendments and remarks discussing patentability of rejected and newly added claims. Applicants respectfully request that the application be passed to issue.

Claims 1-41 were previously pending in the subject Application. Claims 42-44 are being added by way of this amendment. Thus, after entry of this Amendment, claims 1-44 will be pending. No new matter was added to the application when amending or adding these claims.

Applicant are appreciative of the Examiner's review of the claims and allowance of claims 12 and 27.
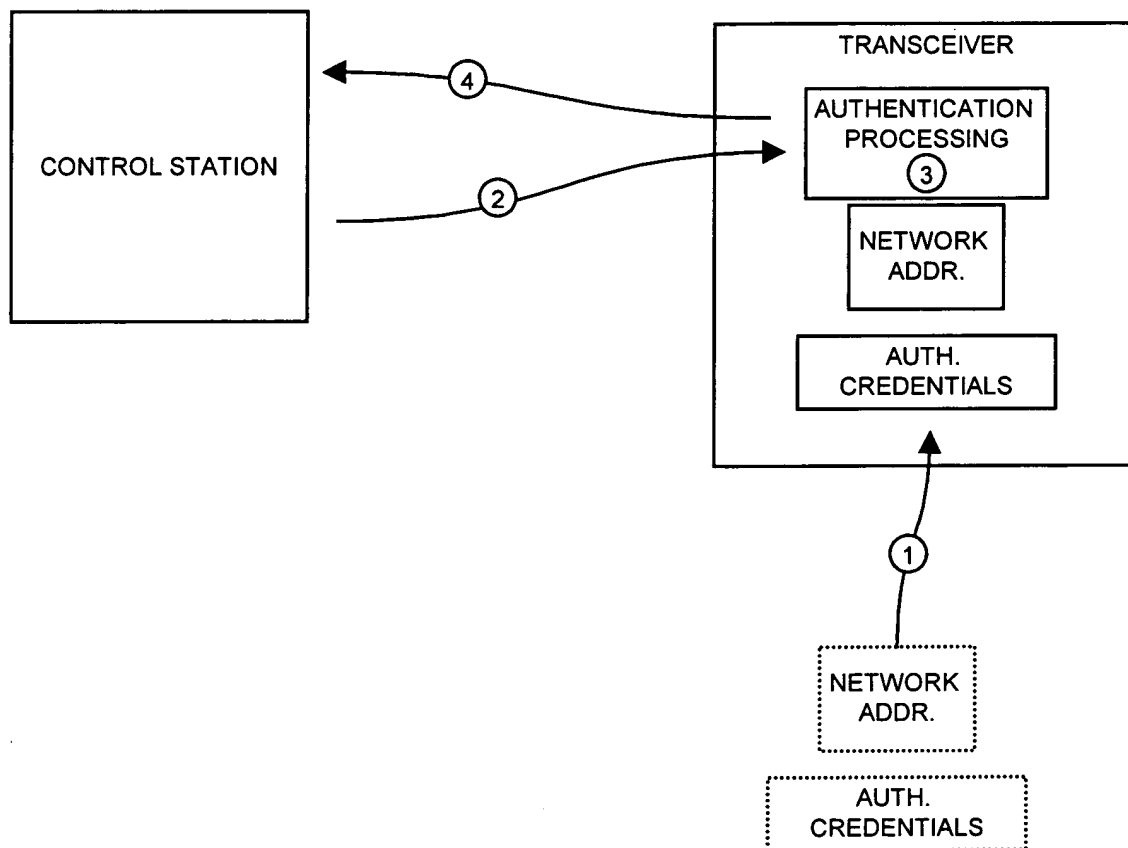
Summary of an Embodiment of the Invention

Prior to discussion of the pending claims, Applicants would like to briefly discuss an illustrative embodiment of the present invention. One embodiment of the present invention, in contrast to conventional approaches, is directed to a technique for authenticating devices in a network such as a Radio Frequency Identification (RFID) Network between control stations and one or more transceivers. A transceiver receives transceiver configuration information including a network address and transceiver authentication credentials and receives an authentication request from the control station. The transceiver applies authentication processing to request information within the authentication request in conjunction with the transceiver authentication credentials to produce an authentication response and transmits the authentication response to the control station to allow the control station to determine if the transceiver is authorized to communicate within the remote identification system.

Rejection of Claim 1 under 35 U.S.C. § 102(e)

The Examiner has rejected claim 1 under 35 U.S.C. § 102(e) as being unpatentable over Leivo (U.S. Patent 6,782,080). Applicants are appreciative of the Examiner's review of pending claim 1 and respectfully request further consideration.

Applicant submits the following figure showing steps of the claimed invention recited by claim 1.
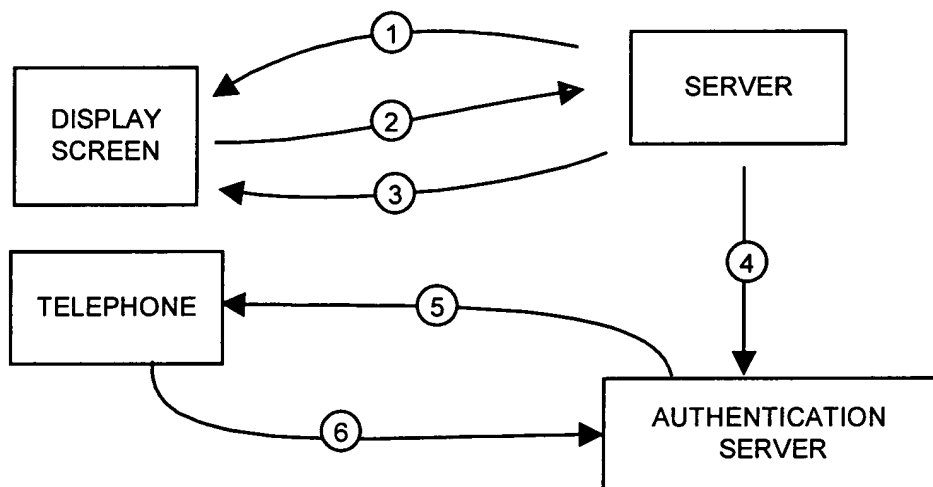
As recited in claim 1, in step 1, the claimed invention recites receiving transceiver configuration information including a network address and transceiver authentication credentials.

In step 2, the claimed invention recites receiving an authentication request from a control station within the remote identification system.

In step 3, the claimed invention recites applying authentication processing to request information within the authentication request in conjunction with the transceiver authentication credentials to produce an authentication response.

In step 4, the claimed invention recites transmitting the authentication response to the control station to allow the control station to determine if the transceiver is authorized to communicate within the remote identification system.

The Examiner likens the claimed invention to Leivo, which includes an authentication server as shown below.

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  ┌──────────┐      ①           ┌──────────┐
  │ DISPLAY  │ ◄─────────────►  │  SERVER  │
  │ SCREEN   │      ②           │          │
  │          │ ─────────────►   └────┬─────┘
  │          │      ③                │
  └──────────┘ ◄─────────────        ④
                                     │
  ┌──────────┐                       ▼
  │TELEPHONE │ ◄──── ⑤ ──── ┌────────────────┐
  │          │              │ AUTHENTICATION │
  └──────────┘ ──── ⑥ ────► │     SERVER     │
                            └────────────────┘
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In step 1 of Leivo, the server requests a user identification and password from the user at the display screen.

In step 2, the user provides an appropriate identification and password.

In step 3, the server provides the user with a PIN code and telephone number B.

In step 4, the server sends an authentication request to the authentication server. The authentication request includes the phone number associated with the user's telephone as well as the PIN code provided to the user in step 3.

In step 5, the authentication server initiates a call to the user's telephone.

In step 6, in response to the call from the authentication server, via the user's telephone, the user provides the PIN code to the authentication server.

The Examiner presumably likens the authentication server and the telephone in Leivo to the respective transceiver and control station in the claimed invention.

Applicant respectfully submits that the claimed invention includes limitations not disclosed by Leivo. For example, claim 1 recites "applying authentication processing to request information within the authentication request in conjunction with the transceiver authentication credentials to produce an authentication response."

In other words, the transceiver according to claim 1 produces an authentication response based on applying authentication processing to information in the request as well as the transceiver authentication credentials. Thus, authentication processing according to the invention involves use of two kinds of information: request information received in a present request and previously received transceiver authentication credentials.

There is no indication in Leivo that the telephone or any other entity associated with the telephone applies authentication processing to information received by the telephone from the authentication server. Moreover, there is no indication in Leivo that the telephone or any other entity associated with the telephone applies authentication processing to previously received authentication credentials. Perhaps more importantly, Leivo does not disclose applying authentication processing to a combination of the request information in the

authentication request and received transceiver authentication credentials to produce an authentication response. At most, Leivo suggests that the authentication server can initiate transmission of a corresponding authentication request to the telephone by calling the user's telephone. There is no mention of the telephone receiving request information associated with an authentication request nor processing of received request information in conjunction with the telephone's authentication credentials. Accordingly, Leivo does not disclose every limitation as recited by claim 1.

Accordingly, Applicant respectfully requests the Examiner to withdraw the rejection or pass claim 1 to issuance. By virtue of dependency, claims 2-12 and 33-41 depend from claim 1 and therefore also should be in condition for allowance.

Claim 16 includes similar limitations as claim 1 and should be allowable for similar reasons. Accordingly, claim 16 and corresponding dependent claims 17-27 should be in condition for allowance.

Claims 13, 28, and 32 should be allowable for similar reasons as discussed above since they each recite "providing an authentication request" and "receiving an authentication response" as opposed to Leivo which merely recites that the terminal performs such operations. Claims 14-15 and 29-30 depend from respective claims 13 and 28 and therefore also should be in condition for allowance.

Claim 40

Applicant would like to further point out that claim 40 includes further distinguishing language over the cited prior art. For example, claim 40 depends from claim 1 and recites that the step of "applying" in claim 1 includes "based on information in the authentication request, identifying one of multiple authentication instructions maintained at the transceiver; and applying the identified one of multiple authentication instructions to i) a data value in the authentication request received from the control station and ii) an identification

code associated with the transceiver to produce the authentication response." Thus, even if the Examiner persists that Leivo anticipates claim 1, Applicant respectfully submits that claim 40 includes limitations not recited by Leivo.

To reject claim 40, the Examiner recites the same passage at column 7 lines 6 through 25, which reads as follows:

> First, the web server 25 shows the user a page for a login procedure to be performed. In other words, the user is requested to enter a user id and a password. The user enters the requested information and if the server 25 accepts this information, it shows the user of the telephone 21 a PIN code and subscriber number B which the user is to call for authentication. At the same time, the server 25 issues an authentication request, which contains the telephone number (subscriber number A) of the telephone 21 and said PIN code, to an authentication server 26. Through a GSM network 27 (and possibly through PSTN/ISDN networks 28), the user of the telephone 21 makes a GSM call to subscriber number B given to the authentication server 26 and gives the server 29 said PIN code. The authentication server 26 verifies the response call from the user and informs the web server 25 of the confirmation, as described above. An alternative to the call made by the telephone 21 is that the authentication server 26 calls the telephone 21, in which case the user provides the PIN code.

Merely providing a PIN code via a corresponding telephone as in Leivo is not equivalent nor suggestive of a step of identifying one of multiple authentication instructions maintained at the transceiver based on information in the authentication request. Moreover, Leivo does not recite applying an identified one of multiple authentication instructions to i) a data value in the authentication request received from the control station and ii) an identification code associated with the transceiver to produce the authentication response. In fact, there is no indication in Leivo that the telephone even maintains one authentication instruction, let alone multiple authentication instructions. It logically follows that

the telephone in Leivo would not apply an identified authentication instruction to a data value in the authentication request because the instructions do not exist. Unlike Leivo, this aspect of the claimed invention enables a transceiver to produce an authentication response based on an instruction specified by the authentication request as well as data in the authentication request. For the same reason, Applicant respectfully submits that claim 42 is in condition for allowance.

Further, in addition to the limitations as discussed above, note that claim 40 also recites applying the identified instruction to an identification code associated with the transceiver to produce the authentication response. Leivo also does not recite such a limitation. For example, Leivo only recites that the telephone has a corresponding phone number used to dial the user. Neither the telephone nor user applies one of multiple identified instructions to the phone number to produce the authentication response. Accordingly, Applicant respectfully requests allowance of claim 40 as well.

Claim 2

Applicant notes that dependent claim 2 includes additional distinguishing features over the cited prior art. For example, claim 2 recites that the transceiver receives a transceiver identification code as well as a transceiver instruction set containing values and corresponding authentication instruction. Applicant respectfully traverses the rejection set forth by the Examiner because the cited language does not recite such specific details associated with authentication. The passage does recite that he telephone can receive a call from the authentication server. However, this is not equivalent to the claim limitations of "receiving transceiver authentication credentials including receiving: i) a transceiver identification code uniquely assigned to the transceiver; and ii) a transceiver instruction set containing a set of authentication values and corresponding authentication instructions." Accordingly, Applicant respectfully request allowance of claim 2.

Claim 3

Applicant notes that the dependent claim 3 includes additional distinguishing features over the cited prior art. For example, claim 3 recites that receiving transceiver configuration information includes periodically receiving transceiver authentication credentials to replace the transceiver authentication credentials formerly received by the transaction. Applicant respectfully traverses the rejection set forth by the Examiner because the cited language does not recite replacement of any information whatsoever. Accordingly, Applicant respectfully request allowance of claim 3 or request the Examiner to provide proper support for such a rejection.

Claim 4

Applicant notes that the dependent claim 4 includes additional distinguishing features over the cited prior art. For example, claim 4 recites "wherein the request information within the authentication request includes:

   i) an request authentication result; and

   ii) a request data value;

   wherein applying authentication processing to request information within the authentication request in conjunction with the transceiver authentication credentials to produce an authentication response comprises:

   identifying an authentication instruction that matches the request authentication result; and

   applying the authentication instruction that matches the request authentication result to the request data value from the authentication request to produce the authentication response."

Applicant respectfully traverses the rejection set forth by the Examiner because the cited language does not recite such specific details of associated with authentication. First, there is no indication whatsoever in Leivo that the authentication request sent from the authentication server to the telephone

includes a request authentication result or a request data value. Moreover, the cited prior art does perform matching of an authentication instruction based on a request authentication result. Nor does the cited prior art involve applying the authentication instruction that matches the request authentication result to the request data value from the authentication request to produce the authentication response. Accordingly, Applicant respectfully request allowance of claim 4 or clarification of the rejection.

Claim 5

Applicant notes that the dependent claim 5 includes additional distinguishing features over the cited prior art. For example, claim 5 recites "wherein identifying an authentication instruction that matches the request authentication result comprises:

applying an authentication function to authentication values in the set of authentication values within the transceiver authentication credentials to produce corresponding transceiver authentication results; and

for each transceiver authentication result produced, determining if the transceiver authentication result matches the request authentication result for that authentication value, and if the transceiver authentication result matches the request authentication result for that authentication value, performing the operation applying the authentication instruction to produce the authentication response." Applicant respectfully traverses the rejection set forth by the Examiner because the cited language does not recite such specific details of associated with authentication. For example, there is no indication that the Leivo discloses a telephone having a set of authentication values, especially ones to which authentication functions are applied. Moreover, Leivo does not disclose the last limitation of matching as in claim 5.

Claim 8

Contrary to the Examiner's observation, there is no discussion in the cited prior art regarding a repeated attempt to authenticate a transceiver upon each failure. Accordingly, Applicant respectfully requests allowance of claim 8.

Claim 9

Contrary to the Examiner's observation, there is no discussion in the cited prior art regarding a transceiver that receives an authentication result in a authentication request as well as a data value for use by the transceiver to apply a selected instruction. Additionally, the claim recites subsequently receiving a different authentication result and different data value from the control station. The cited prior art additionally does not disclose this limitation as well. Accordingly, Applicant respectfully requests allowance of claim 9.

Claim 33

The Examiner admits that Leivo does not disclose implementing a roll back function in the context of authentication as in the claimed invention. Contrary to the Examiner's observation, there is also no discussion in Boylan that the rollback functions are used in the context of authentication as in the claimed invention. Thus, the claimed invention includes a limitation not recited by the prior art. Applicant respectfully requests allowance of claim 33.

Claim 35

For similar reasons as claim 33, the claimed invention includes a limitation not recited by the prior art. Applicant respectfully requests allowance of claim 35.

New Claims 42-44

Applicant has added claims 42-42, which further narrows claim 1 over the cited prior art. Support for these claims can be found (among other places) in Fig 1 and corresponding text of the application. For the reasons as discussed above, Applicant respectfully requests allowance of these new claims as well.

CONCLUSION

In view of the foregoing remarks, Applicants submit that the pending claims as well as newly added claims are in condition for allowance. A Notice to this affect is respectfully requested. If the Examiner believes, after reviewing this Response, that the pending claims are not in condition for allowance, the Examiner is respectfully requested to call the Applicant(s) Representative at the number below.

If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 50-3735.

If the enclosed papers or fees are considered incomplete, the Patent Office is respectfully requested to contact the undersigned Attorney at (508) 616-9660, in Westborough, Massachusetts.

Respectfully submitted,

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